

Before the
Federal Communications Commission
Washington, DC 20554

In the Matter of:

Revitalization of the AM Radio Service)
Media Bureau Docket 13-249
)

R. Morgan Burrow, Jr., a consulting telecommunications engineer in private practice, hereby submits these comments in response to the Commission's Notice of Proposed Rulemaking in the above referenced matter.

The Commission submitted six proposals for comment in the proceeding. These proposals are only the beginning of measures that should be implemented to draw listeners back to the standard broadcast (540-1705 kHz) band.

Proposal A: FM Translators for the AM service: FM translators should be made available for standard broadcast stations. Translators have aided various stations I have worked with over the years. Due to the travesty of no translator filing "window" between 2003 and the present, standard broadcast stations should be permitted to apply for one translator outside a filing window. There should be a hierarchy in which translator applications should be accepted and/or granted. For the purpose of this comment "Stand alone" implies individual/small business/owner of 5 or less stations (AM or FM, excluding translators). "Small group" implies 6 to 25 AM or FM stations (total).

1. Stand alone owned AM daytime stations on Class A channels, presently within the 0.5 mV/m 50% skywave contour of the Class A station. (Presently precluded from offering night service to the community of license.)
2. Small group owned AM daytime stations on Class A channels, presently within the 0.5 mV/m 50% skywave contour of the Class A station. (Presently precluded from offering night service to the community of license.)
3. Stand alone owned AM daytime stations on Class B channels with low power PSSA authority. (Presently limited night service to community)

4. Stand alone Class B stations with deep nulls over populated areas in the served area (community of license).
5. Small group owned AM stations with deep nulls over populated areas in the served area (community of license).
6. Stand alone and small group owned Class C stations.
7. Other large group owned AM stations.

Proposal B: Community of License: The “community of license” concept may be old, but no suitable, easily identifiable substitute for “community of license” to associate with a call sign has been presented. Service to the “community of license” may be defined as low as 2 mV/m daytime (90% coverage) or 5 mV/m daytime (70% coverage). Nighttime coverage could be reduced to 50% of the area within the 50% RSS night contour. The station most likely is listenable outside of the 50% night RSS contour since listening on a radio does not decay “brick wall” style. BIA supposedly uses the 1 mV/m day contour for advertising coverage population determinations.

Proposal C: Nighttime Service: Retain the present skywave propagation curves. This standardizes the United States with ITU-R P. 1147-1, Skywave Propagation, 50 -12,000 km. Note that the ITU curves cut off at 10,000 km. The nature of measurements conducted by the ITU, the FCC, or the NTIA, to confirm the skywave propagation formula at low level, are unknown. Protection of the Alaskan 1-N co-channel 0.1 mV/m contour 26 dB is tantamount to “warehousing noise”. It is unknown if the FCC formula is verifiably valid at 5 uV/m 10% skywave (interfering contour) at very high latitudes. Increase and standardize the Alaskan protected skywave contour.

Proposal D: Eliminate the “Ratchet”: I was one of the commenters in Docket 87-267 who opposed the concept of the “ratchet” and the separate 25%/50% RSS levels. Docket 87-267 appeared to be a “outcome-driven” proceeding where the Commission staff adopted the “ratchet”, along with other proposals regardless of input from commenters. The “ratchet”, along with the separate 25/50% RSS levels, have prevented numerous AM stations from developing their facilities and improving service to the public. The “ratchet” and the separate RSS levels have cost other AM stations money insofar as more expensive directional arrays, power reductions, etc. If nothing more develops from Docket 13-249, the separate RSS levels and the “ratchet” have to go.

Proposal E: Modulation-Dependent Carrier Level Control Techniques: New techniques to control power consumption are encouraged as long as the audio quality is not compromised. In other words, music broadcast over AM should sound like music, not music transmitted through a DSSC or SSB system.

The NRSC “mask” can be improved. Similarly, active filters with Tchebyscheff response can be used to heavily block audio components above 8 kHz in transmitters. For many years, a 8 kHz program line was used to connect a remote studio to a AM transmitter. Modern studio to transmitter equipment has improved frequency response. Nonetheless, one wants to hear musical instruments with some fidelity; in other words, a cymbal should sound like a cymbal on the air, and not a “thud”. Limited bandwidth is OK for voice but not for music. Regardless, the transmitter and antenna should transmit quality and not crap.

Proposal F. Antenna Efficiency Standards: The 85% RMS (efficiency) standard for a directional antenna approved by the standard proof methods used for years should be modified. This concept, over the years, has cost some AM stations building a new directional array a lot of money.

The Commission can correct this problem by permitting additional transmitter power in a 1-step 302 application, to compensate for the poor efficiency.

The 85% RMS needs to be looked at in light of moment method (MoM) techniques that are not field intensity-measurement dependent. One side of this discussion supports some efficiency determination; a client building a 5 kw AM station should get for his money 5 kW efficiency, and not be told the antenna is inefficient and the client needs to order a 10 kW transmitter power to radiate 5 kW, (especially if the client ordered and installed a 5 kW transmitter). The other side of the discussion is “take the service you get”, which is essentially the result using MoM techniques.

Other concerns:

1. Increase the nighttime protected contour for Class A stations. The nighttime protected contour for Class A stations should be increased from 0.5 mV/m 50% skywave to 1.0 mV/m 50% skywave. In the event a 1.0 mV/m contour is not generated, the 1.0 mV/m groundwave contour to be protected. There is a precedent for this; WTOP (1500 kHz 50 kW DA-2-U Washington, DC and KSTP (1500 kHz 50 kW DA-N-U St. Paul,

MN) applied and received (after many years), authorization to relax the respective nighttime nulls to the equivalent of 250 watts toward each station. The AM band is increasingly polluted from various sources of interference. Listening to some Class A stations at their measured 0.1 mV/m day contour and near the predicted 0.5 mV/m night contour now, is tantamount to listening to noise. Raising the nighttime Class A protected contour to 1 mV/m will also allow some daytime stations presently precluded from low power night service to provide limited service to their communities. Eliminate the 1-N status for Alaska Class A stations, and standardize the protected contour.

2. Increase the daytime protected contour for all US Class A stations from 0.1 to 0.5 mV/m. This increase creates a realistic Class A listening area, and not "warehouse" coverage that is presently buried in noise. Elimination of "critical hours" power reductions should be studied.
3. Retain the third-adjacent channel protection requirement but increase the third adjacent contour to 50 mV/m, 0 db ratio. This is suggested primarily to discourage co-location of third-adjacent channel stations and generation of resulting spurious and IM emissions.
4. Renegotiate the US/Canadian and US/Mexican agreements to relax the restrictive daytime second-adjacent contour protection. The present 15 mV/m (interfering) to 0.5 mV/m (protected contour) ratio is a Reagan-era "giveaway" which hurts American stations in border areas. The (typically unmeasured, protected) 0.5 mV/m Canadian/Mexican coverage generally is wide area and excessive for second adjacent channel protection purposes (warehousing coverage). The 5 mV/m, 0 dB second-adjacent channel protection ratio currently used for American allocations is much more reasonable.
5. Authorize allocation field intensity measurements to and from Mexican stations. In the event Mexico does not agree to measurements, the Commission should authorize measurements made over United States territory to and from Mexican stations, regardless.
6. Renegotiate the 1984 US/Canadian agreement to permanently "grandfather" US Class C stations at 1 kW operation on channels where Canadian Class B stations operate. This affects numerous US Class C stations that have lost sites and had to relocate and reduce power, to protect co-channel Canadian Class B stations, primarily in the border area. The nighttime situation is more acute since Class C stations located 200 or more km from the Canadian border can increase the RSS of a co-channel Canadian station on the US Class C channel.

7. Revise the 1954 R-3 (M-3) soil conductivity map. This will reduce a expensive field intensity measurement requirement for most AM stations desiring to develop their facilities or relocate. Thousands of measurements have been made and filed with the Commission since 1954, and this data should be made available and incorporated in a revised R-3 conductivity map for everyone's benefit. The data becomes public record once a 301 or 302 (measurement proof) application is filed with the FCC, so privacy of data or copyright should not be a concern.
8. One outstanding feature of the radio is the off switch. People will not listen to crappy programming or a poor sounding station. People will not listen to an automated "jukebox" on the radio. When you hear an announcement containing "...It's 20 past the hour..", you can bet the programming is not locally originated, and is a satellite feed from points unknown. It's also probable no one is on duty at the station. Some group station owners are more concerned about stockholders and the \$20B plus debt, rather than serving the public. I can burn and play my own CD's while in the vehicle on the road commercial free, so why should I listen to a automated radio "jukebox"? I can ignore the satellite programming, and listen to stations below 92.1 MHz on the FM dial. There is also Sirius XM. People want to hear some current (not days old) local news and weather on the radio, especially when driving. AM licensees in particular need to invest in local programming, serve their communities, and stop driving listeners away with "afterthought" programming. The AM service is probably the most complex, difficult, and expensive for the Commission to administer. Many AM licensees own expensive property and a multi-tower directional array. Many AM directional antennas operate outside license specifications or sit on STA for long periods due to the expense to repair.

Respectfully submitted:



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